KONAMI®

143

HAUNTED™ CASTLE

INSTRUCTION MANUAL

TABLE OF CONTENTS

CONVERSION KIT CONTENTS:

- MAIN PRINTED CIRCUIT BOARD
- P.C.B. CAGE (FCC REQUIRED)
- CONNECTING WIRING HARNESS
- 6 SETS — PRE-PRINTED BUTTON ASSEMBLIES
- ONE 4-WAY JOYSTICK
- MARQUEE (HEADER)
  (1/8" acrylic sheet)
- ONE SET SIDE PANEL GRAPHICS (left & right)
- CONTROL PANEL OVERLAY
- MANUAL
- REGISTRATION CARD

REPLACEMENT ACCESSORIES ARE AVAILABLE THROUGH YOUR DISTRIBUTOR.

THIS KIT USABLE FOR UPRIGHT VIDEO GAMES WITH A RASTAR SCAN MONITOR WHICH IS OR CAN BE MOUNTED HORIZONTALLY.

HAUNTED CASTLE: INTRODUCTION

KONAMI CONVERSION KITS are the most complete conversion kits available today. Every detail has been carefully considered, designed and packaged to provide you the means of easily producing a professional conversion.

These kits have all the accessories to easily convert your UPRIGHT video game.

We strongly urge you to FULLY STUDY this instruction manual BEFORE you begin your conversion. It contains step-by-step instructions, schematic diagrams and suggestions on how to install your Konami Conversion Kit and maximize your profits.

Haunted Castle can be installed in any horizontally-mounted rastar scan monitor game.

Everything you will need to construct your new game is provided in this kit. All accessory parts—wiring harness, joystick, etc. are custom made for Haunted Castle by top engineers experienced in the coin-op industry. One 4-way joystick (as provided) MUST be used.

★ ★ ★ IMPORTANT NOTICE ★ ★ ★

The Japanese Amusement Machine Manufacturers Association (JAMMA) has introduced a new standard in video game P.C.B.'s. It was decided that all new products from any JAMMA member will use the same pin print-out on the edge connector. The edge connector will have 56 pin outs, 28 per side.

Konami Inc. will offer a 56 to 36 pin adaptor P.C.B. available through your distributor. This new adaptor P.C.B. will enable the new 56 pin out to adapt to Konami's old standard 36 pin out.

PUTTING YOUR BEST GAME FORWARD

PREPARATION:
For best results, all old graphics should be removed completely from the cabinet. "Stick-on" graphics can be removed by using a hairdryer or hot air device. The heat from the dryer will loosen the adhesive, allowing you to easily peel them off — any adhesive residue can be cleaned off with acetone and a soft dry cloth. (DO NOT USE ACETONE ON SURFACES PAINTED WITH FLAT PAINT.)

TOOLS YOU NEED:
1. Foaming Aerosol (such as "Windex").
2. Soft Squeegee.
3. X-Acto Knife.

SIDE PANEL DECALS
1. Spray area of cabinet where Side Panel decals are to be applied with foaming aerosol or a mild soap solution.
2. Remove protective backing from decals.
3. Position decals into place.
4. With a soft squeegee, beginning from the center of the decal, slowly and evenly press out excess foam until you achieve a smooth finish.
5. Allow to set approximately 2 to 3 hours before handling. Maximum adherence is achieved in 48 to 72 hours.
6. Trim side decal to fit your cabinet.

CONTROL PANEL OVERLAY:
1. Refer to Recommended Control Panel Layout on page 6.
2. Drill any new holes needed.
3. Plug any holes that will not be used. (A permanent epoxy filler works well for this step.)
4. Pre-position the overlay prior to removing the backing.
5. Slowly apply the overlay — inch by inch on the control panel, removing the backing as you apply it.
6. Once it's in place, by using an X-Acto knife, cut around the button and joystick placements.

FCC WARNING LABEL:
FCC Warning Label must be applied to the outside of the cabinet near the line cord entry.

MARQUEE

(WEAR PROTECTIVE GLASSES WHILE TRIMMING MARQUEE)

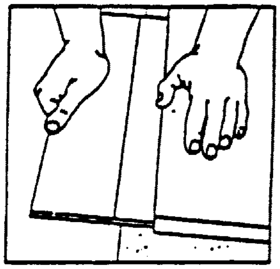
1/8″ Acrylic Marquee should be cut to fit your game. DO NOT remove protective mask until this is done.

One way of cutting your Marquee is as follows: (Be sure to protect painted side of Marquee from any surface which may scratch or mar finish).

CUTTING WITH A KNIFE OR SCRIBER
Acrylic sheet up to 3/16″ thick may be cut by a method similar to that used for cutting window glass. Use a scriber of some kind — a scribing knife such as the one pictured, a metal scriber, an awl, or even a sturdy craft knife — to score the sheet. Draw the scriber several times (7 or 8 times for a 3/16″ thick piece) along a straight edge held firmly in place. It is best not to remove the protective masking. Make the cuts carefully using firm, even pressure. For best results make each stroke cleanly off the edge of the sheet.

Then clamp the acrylic sheet or hold it rigidly under a straight edge with the scribe mark hanging just over the edge of a table. Protect your hands with a cloth, and apply a sharp downward pressure to the other side of the sheet. It will break along the scratch. Scrape the edges to smooth any sharp corners. This method is not recommended for long breaks or thick material.


Always draw the scribing knife along a straight edge.


Break sheet over edge of table after scribing.

P.C.B. CAGE INSTALLATION

Konami, Inc. now supplies a new style P.C.B. cage which is superior to old style cages because of ease of installation. The cage is made of a 32 point stem-stock which is fire retardant.

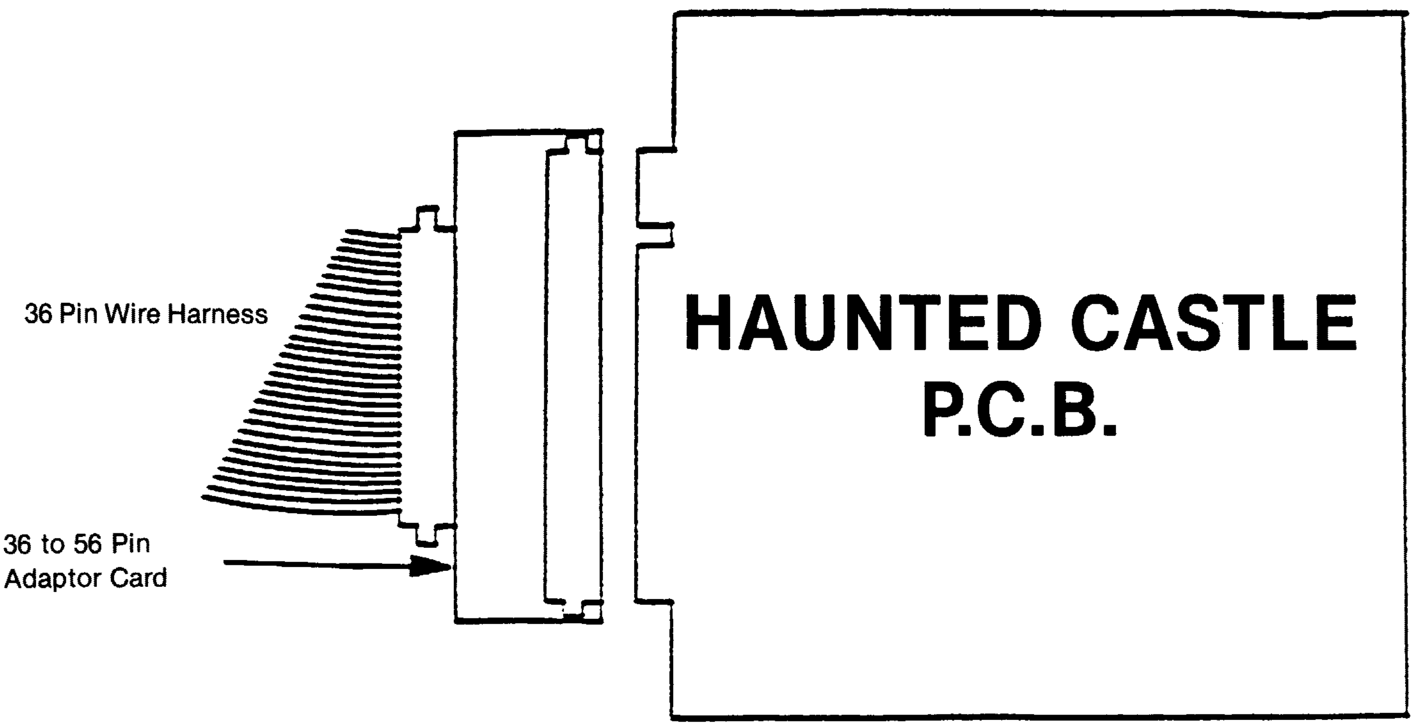
TO INSTALL THE CAGE:
1. Open cage bottom and secure to desired P.C.B. position.
2. Install printed circuit board inside cage using wood screws, screwed through the cage bottom into cabinet side.
3. Close the cage over printed circuit board and secure with latch on cage.

NEW PRODUCT FROM

KONAMI®

All new Konami P.C.B.'s utilize a 56 pin edge connector. This connector complies with the standard set by JAMMA (Japanese Amusement Machine Manufacturers Association). However, all Konami P.C.B.'s manufactured prior to Top Gunner utilize a 36 pin edge connector. These games include Super Cobra, Scramble, Pooyan, Locomotion, Circus Charlie, L'il Hustler, Juno First, Time Pilot, Gyruss, Tutankham, Turtles, Super Basketball, Mega Zone, Pandora's Palace, Time Pilot '84, Track 'N' Field, Hypersports, Road Fighter, Yie-Ar Kung Fu, Kicker, Rush 'N' Attack, Mikie, Frogger, Amidar, Roc 'N Rope, The End, Jail Break, and Nemesis.

Because of the large amount of video game cabinets that are wired for Konami's old standard edge connector, Konami now offers 36 to 56 pin adaptor P.C.B.'s. This adaptor P.C.B. enables you to simply plug in a new 56 pin JAMMA P.C.B. (not only Konami's) **rather than rewiring.**



Please contact your distributor for price and delivery!

HAUNTED CASTLE: MONITOR INFORMATION

SERVICE INSTRUCTIONS

NOTE: All monitors are equipped with automatic degaussing coils (L701) which demagnetize the picture tube every time the monitor is turned on after being off for a minimum of 5 minutes. Should any part of the chassis become magnetized it will be necessary to degauss the affected area with a manual degaussing coil. Move the coil slowly around the CRT face and all surrounding metal parts. Then slowly withdraw for a distance of 6 feet before turning off.

1.0 BLACK LEVEL CONTROL ADJUSTMENT

This control has been set at the factory and should not need further attention, however, when the game is connected a slight adjustment of VR201 may be necessary to obtain the proper black level (the black portion of the picture just extinguished).

2.0 VERTICAL SIZE (HEIGHT)

Location of this control is shown in Fig. 1. This control must be adjusted slowly, if necessary, until the picture or test pattern attains the correct vertical proportions.

3.0 CIRCUIT PROTECTION

A 4.0A pigtail fuse, mounted on the Main Board has been provided to protect the Power Output Circuit.

4.0 FOCUS

Adjust the focus control, located on the HV unit (T352), for maximum over-all defination and fine picture detail.

5.0 HORIZONTAL HOLD CONTROL ADJUSTMENT, VR351 (See Fig. 1)

A warm-up period of at least five minutes should be allowed before alignment is carried out. With the monitor being driven from the game signal, short TP601 to TP31. Adjust VR351 until the picture stops sliding horizontally. Remove the short.

6.0 HORIZONTAL VIDEO POSITION

If the video is off center on the raster some compensation can be made by adjusting this control.

7.0 VERTICAL RASTER POSITION ADJUSTMENT

If the video is off center vertically, (short dimension of picture tube) some compensation can be made by moving the vertical raster position adjustment jumper to either positions "U" or "D".

8.0 HORIZONTAL RASTER POSITION ADJUSTMENT

If the video is off center horizontally (long dimension of the pictůre tube) some compensation can be made by moving the horizontal raster position adjustment jumper to either positions "R" or "L".

9.0 HORIZONTAL WIDTH ADJUSTMENT

The horizontal width coil is a hexagonal tuning tool adjustment. This control must be adjusted slowly, if necessary, until the picture or test pattern attains the correct horizontal proportions.

* KONAMI GAMES ARE ALL NEGATIVE COMPOSIT SYNC.
USE THE THREE PIN CONNECTOR ON THE MONITOR.

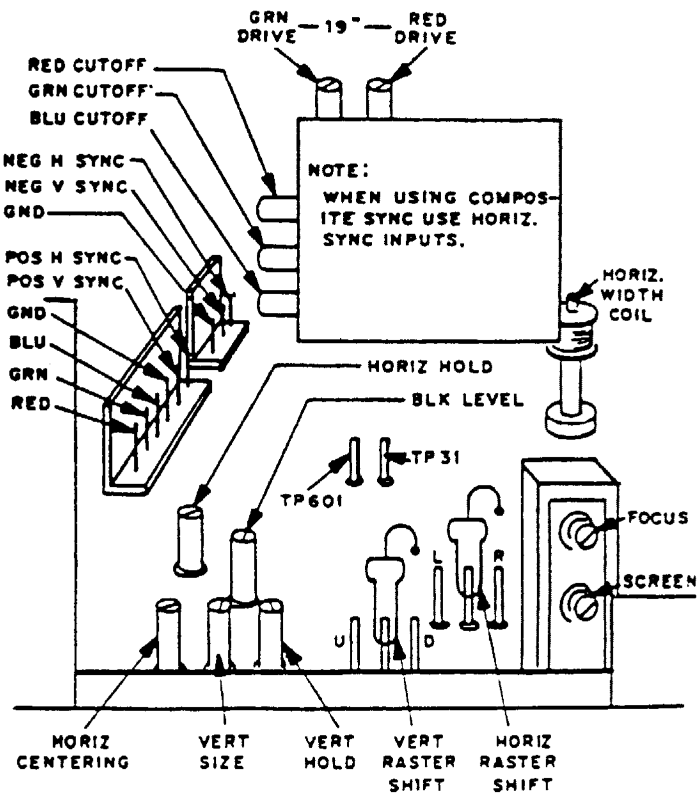
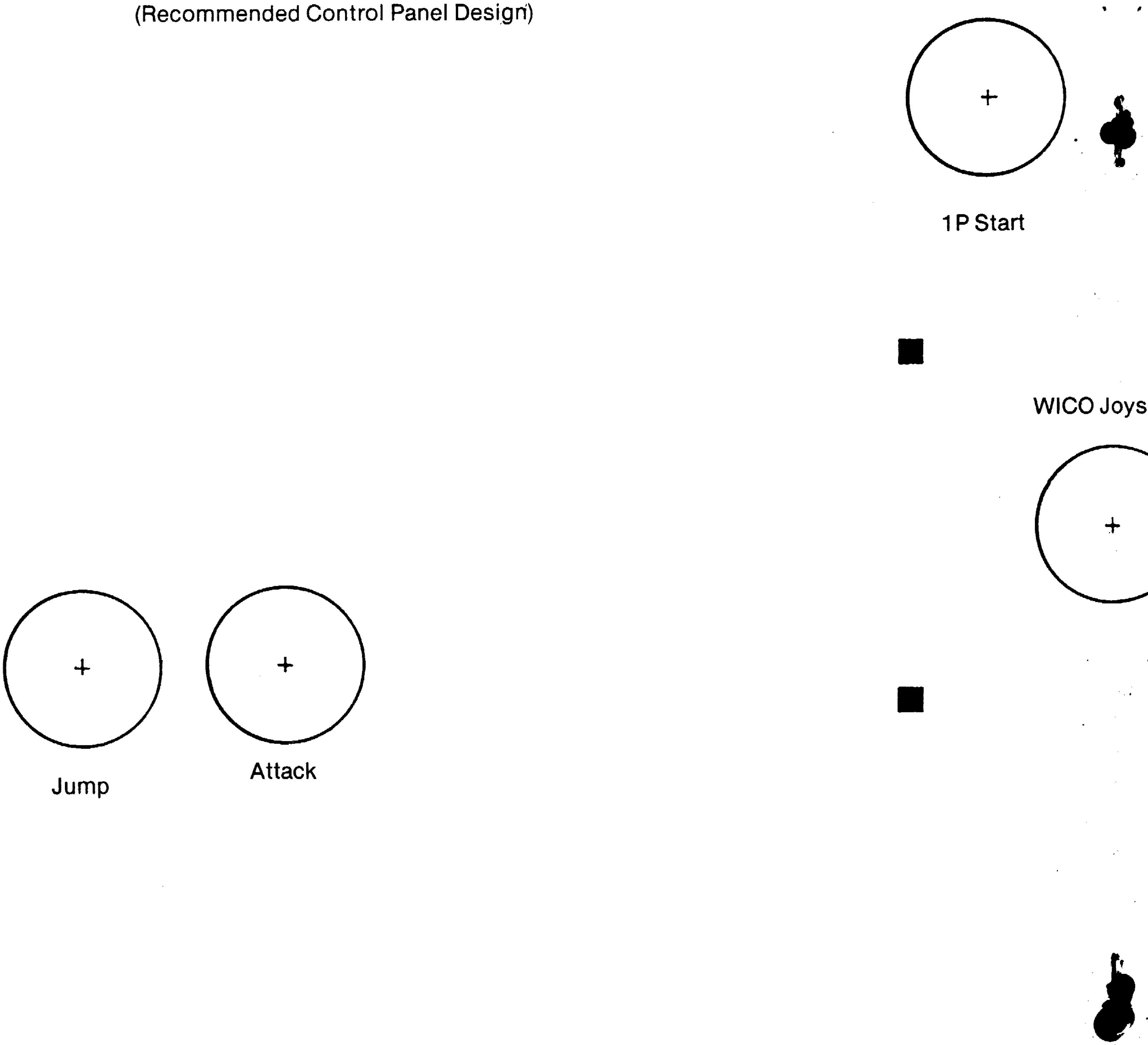


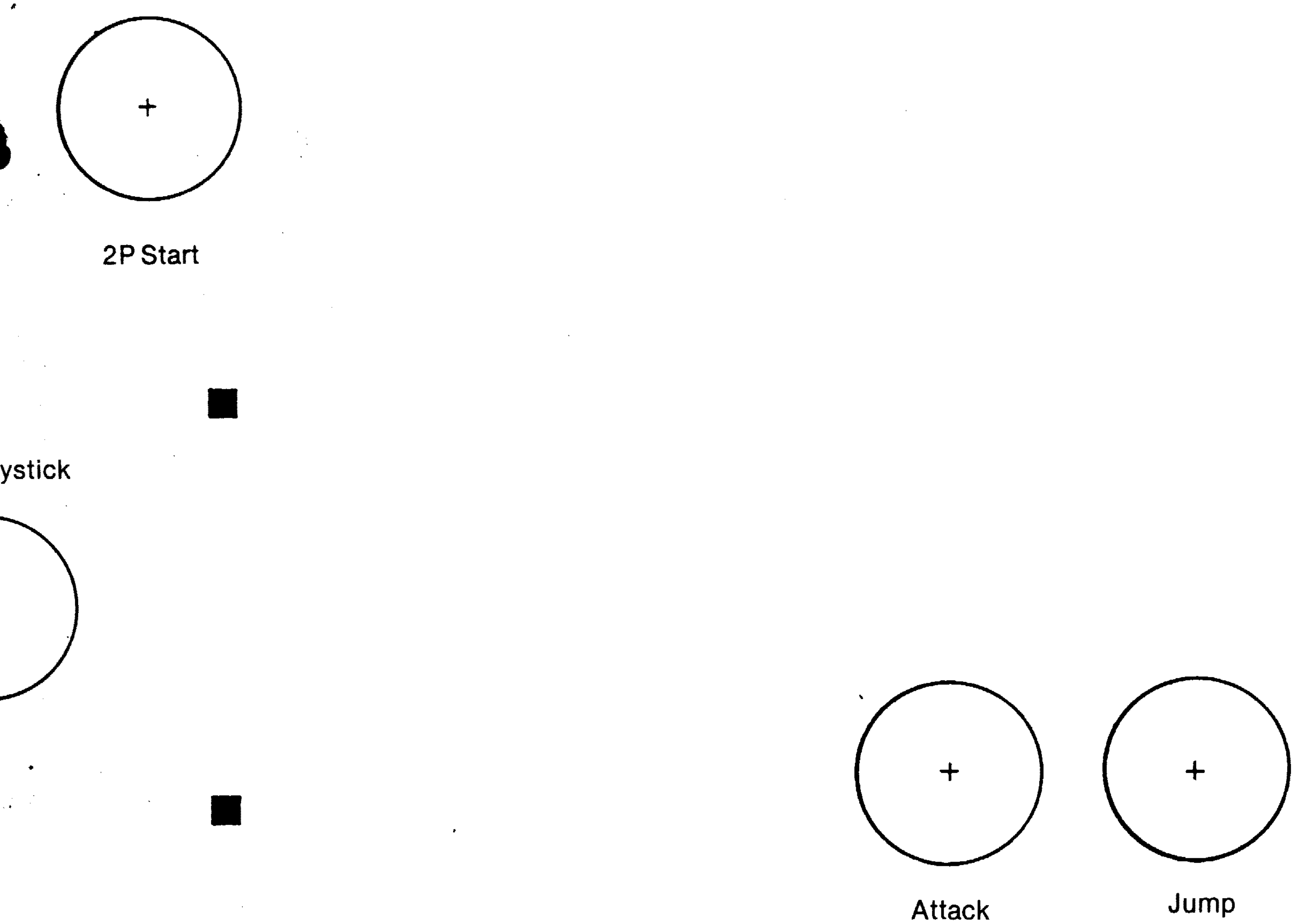
FIGURE 1

HAUNTED CASTLE CONTROL PANEL DRILLING TEMPLATE

(Recommended Control Panel Design)



REMOVE TEMPLATE CAREFULLY



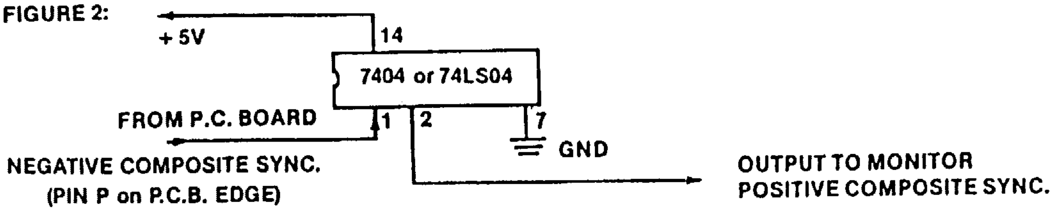
HAUNTED CASTLE: TECHNICAL INFORMATION

Haunted Castle requires horizontally mounted monitor. It also generates composite negative sync. If your monitor is composite positive sync, you will have to change to composite negative sync.

To alternate composite positive sync to composite negative sync, use 7404 IC or 74LS04 IC. The signal on the output pin from the P.C.B. is a combination of H-sync and V-sync.

NOTE: Please refer to Figure 2.

FIGURE 2:



(+ 5V NS GND should be taken out of the P.C. Board.)

TROUBLE SHOOTING GUIDE

PROBLEM:	POSSIBLE SOLUTION
No Screen or Constant Reset	1). Check +5 V line at the P.C.B. 2). Make sure all socketed eproms and custom IC's are seated securely. Apply light pressure to secure. 3). Check harness to be sure it is not on backwards. 4). Check connectors between P.C.B.'s for secure fit.
No Sound	1). Check +12V line at the P.C.B. 2). Make sure both speaker out wires are connected to the speakers. (DO NOT CONNECT A GROUND.)
Distorted Sound	1). Replace cabinet speaker.
I/O Problem (coin 1 doesn't work or Joystick Up doesn't work, etc.)	1). Do not hook a coin counter to the coin 1 or coin 2 outputs. This will cause damage. 2). Check your schematic for the 74LS253 IC that corresponds to your I/O problem. Check the appropriate pin with a scope or multimeter for a high output (5V), if output is low replace the 74LS253.

CAUTION

DO NOT WIRE COIN COUNTERS TO THE COIN 1 OR COIN 2 OUTPUTS. THIS WILL CAUSE DAMAGE TO THE I/O MICROCHIP 74LS253. COIN COUNTERS CAN ONLY BE WIRED TO COIN COUNTER OUTPUTS.

HAUNTED CASTLE: WIRING HARNESS

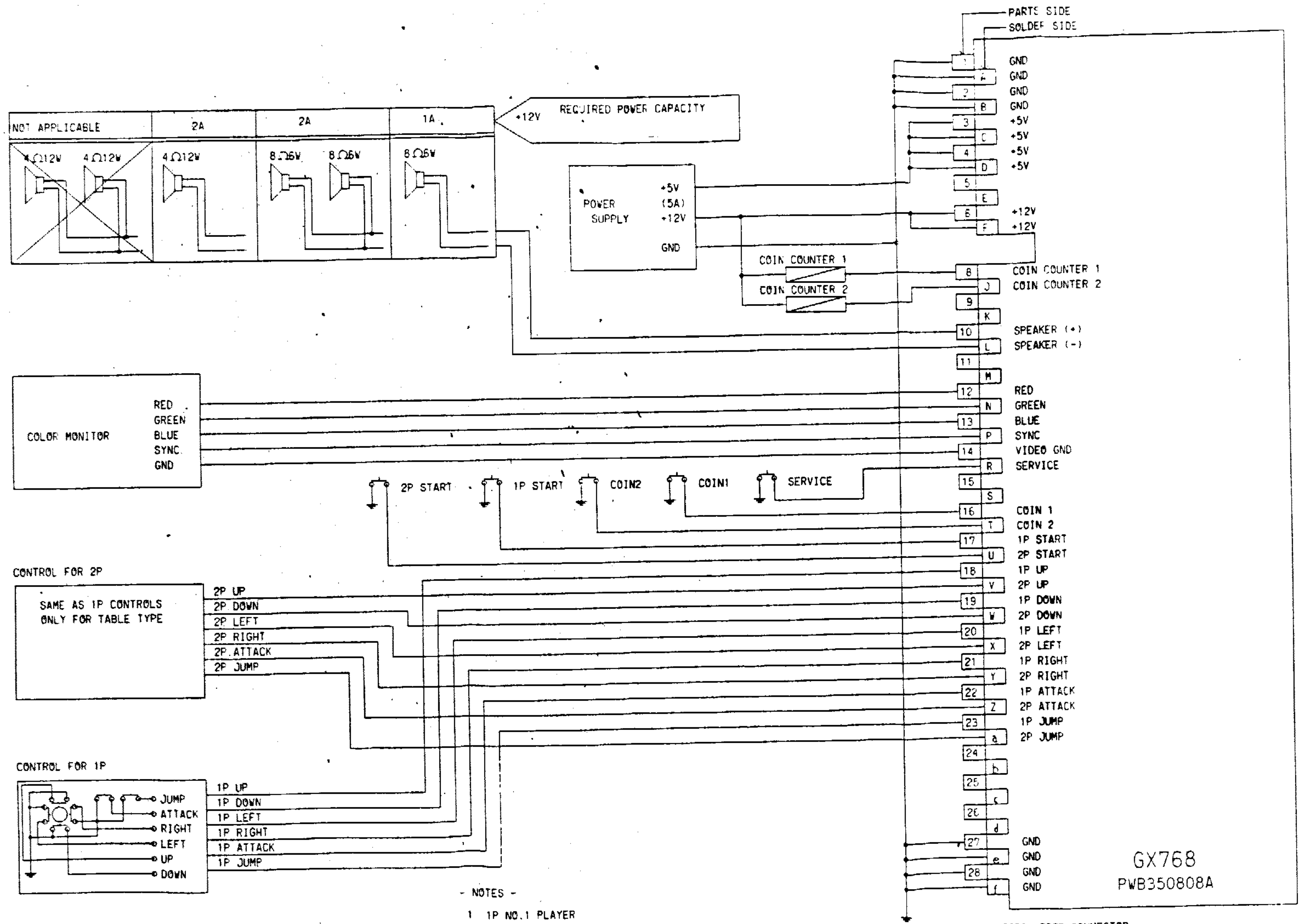
WIRE COLOR KEY:

Solder Side ← → Parts Side

WIRE COLOR	SOLDER SIDE			PARTS SIDE	WIRE COLOR
BLACK	GND	A	1	GND	BLACK
BLACK	GND	B	2	GND	BLACK
RED	+5V DC	C	3	+5V DC	RED
RED	+5V DC	D	4	+5V DC	RED
GREEN	NOT USED	E	5	NOT USED	GREEN
ORANGE	+12V DC	F	6	+12V DC	ORANGE
	*KEY	H	7	*KEY	
Pink/Red ~~BROWN/YELLOW~~	COIN COUNTER 2	J	8	COIN COUNTER 1	White/Black ~~GREEN/GRAY~~
	(EMPTY)	K	9	(EMPTY)	
WHITE/~~BROWN~~ Yellow	SPEAKER	L	10	SPEAKER	White ~~YELLOW/GRAY~~
	(EMPTY)	M	11	(EMPTY)	
WHITE/GREEN	VIDEO GREEN	N	12	VIDEO RED	RED/WHITE
WHITE	VIDEO SYNC	P	13	VIDEO BLUE	BLUE/WHITE
~~RED/YELLOW~~ Yellow/Black	SERVICE SW	R	14	VIDEO GROUND	BLACK
	(EMPTY)	S	15	(EMPTY)	
~~VIOLET/WHITE~~ Yellow/Red	COIN 2	T	16	COIN 1	Yellow/BLUE/~~BROWN~~
Blue ~~RED/GREEN~~ White/Violet	2P START	U	17	1P START	Orange/Black ~~PINK/YELLOW~~ Green
~~BLUE/YELLOW~~ White/Brown	2P UP	V	18	1P UP	White/Grey ~~ORANGE/WHITE~~ Red
~~VIOLET/YELLOW~~ Orange/White	2P DOWN	W	19	1P DOWN	Yellow/Grey ~~BLACK/WHITE~~ Brown
~~ORANGE/GREEN~~ Orange/Red	2P LEFT	X	20	1P LEFT	Yellow/Green ~~RED/GRAY~~ Orange
ORANGE/~~YELLOW~~ Orange/Grey	2P RIGHT	Y	21	1P RIGHT	Orange/Blue ~~GRAY/WHITE~~ Tan
~~BLACK/YELLOW~~ Grey/Red	2P ATTACK	Z	22	1P ATTACK	Grey/Black ~~PINK/WHITE~~
~~ORANGE/GRAY~~ Grey/Green	2P JUMP	a	23	1P JUMP	Grey/Blue ~~GREEN/BROWN~~
BROWN/WHITE	NOT USED	b	24	NOT USED	RED/BROWN
GRAY/YELLOW	NOT USED	c	25	NOT USED	WHITE/BLACK
BLUE/GRAY	NOT USED	d	26	NOT USED	WHITE/VIOLET
BLACK	GND	e	27	GND	BLACK
BLACK	GND	f	28	GND	BLACK

(BASE COLOR/LINE COLOR)

HAUNTED CASTLE: WIRING DIAGRAM



- NOTES -

1 1P NO.1 PLAYER
2P NO.2 PLAYER

2 SURGE KILLER DIODES FOR COIN COUNTER INSTALLED ON THE P.C.B.

DIP SWITCH SETTINGS

DIP SWITCH NO. 1 SETTINGS

1. COIN 1

SW	1	2	3	4	COIN	PLAY
•	OFF	OFF	OFF	OFF	1	1
	ON	OFF			1	2
	OFF	ON			1	3
	ON	ON			1	4
	OFF	OFF	ON	OFF	1	5
	ON	OFF			1	6
	OFF	ON			1	7
	ON	ON			2	1
	OFF	OFF	OFF	ON	2	3
	ON	OFF			2	5
	OFF	ON			3	1
	ON	ON			3	2
	OFF	OFF	ON	ON	3	4
	ON	OFF			4	1
	OFF	ON			4	3
	ON	ON			FREEPLAY	

FREEPLAY: You can play game without coins.

2. COIN 2

SW	5	6	7	8	COIN	PLAY
•	OFF	OFF	OFF	OFF	1	1
	ON	OFF			1	2
	OFF	ON			1	3
	ON	ON			1	4
	OFF	OFF	ON	OFF	1	5
	ON	ON			1	6
	OFF	ON			1	7
	ON	OFF			2	1
	OFF	OFF	OFF	ON	2	3
	ON	OFF			2	5
	OFF	ON			3	1
	ON	ON			3	2
	OFF	OFF	ON	ON	3	4
	ON	OFF			4	1
	OFF	ON			4	3
	ON	ON			VOID	

DIP SWITCH NO. 2 SETTINGS

1. CHANGE OF TABLE/UPRIGHT

SW	3	TYPE
	OFF	TABLE
•	ON	UPRIGHT

2. DIFFICULTY OF THE GAME (1)

SW	4	5	DIFFICULTY
	OFF	OFF	EASY
	ON	OFF	NORMAL
•	OFF	ON	DIFFICULT
	ON	ON	VERY DIFFICULT

3. DIFFICULTY OF THE GAME (2)

SW	6	7	STRENGTH OF THE PLAYER
	OFF	OFF	STRONG
	ON	OFF	NORMAL
•	OFF	ON	WEAK
	ON	ON	VERY WEAK

4. SOUND IN ATTRACTIVE MODE

SW	8	SOUND
	OFF	OFF
•	ON	ON

SW1 and SW2 are not used.

DIP SWITCH NO.3 SETTINGS

1. VIDEO SCREEN FLIP

SW	1	
•	OFF	NORMAL
	ON	UPSIDE DOWN

2. SINGLE/DUAL UPRIGHT CONTROL

SW	2	
•	OFF	SINGLE CONTROL UPRIGHT
	ON	DUAL CONTROL UPRIGHT

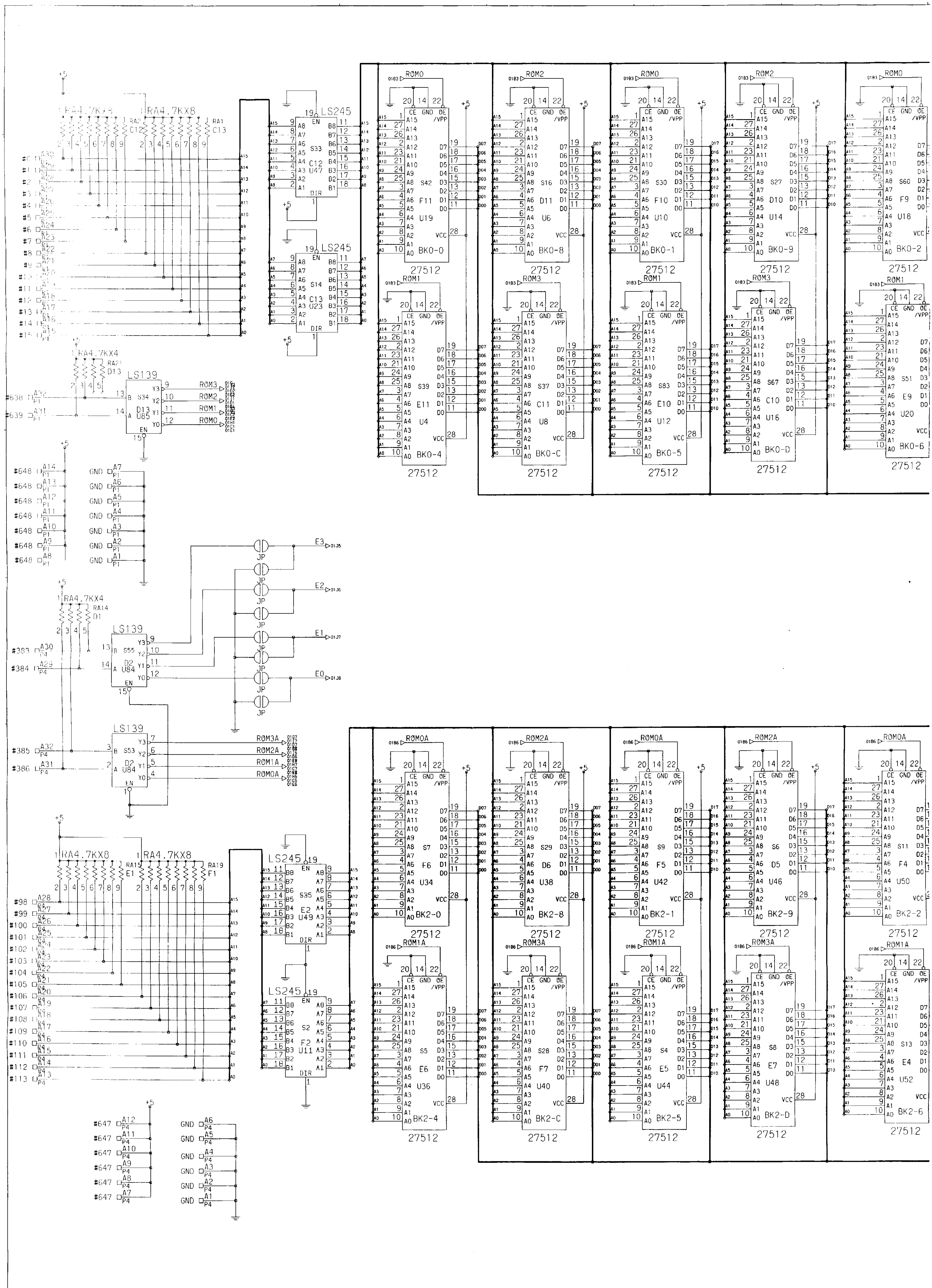
3. CHANGE OF MODE

SW	3	MODE
•	OFF	GAME MODE
	ON	TEST MODE

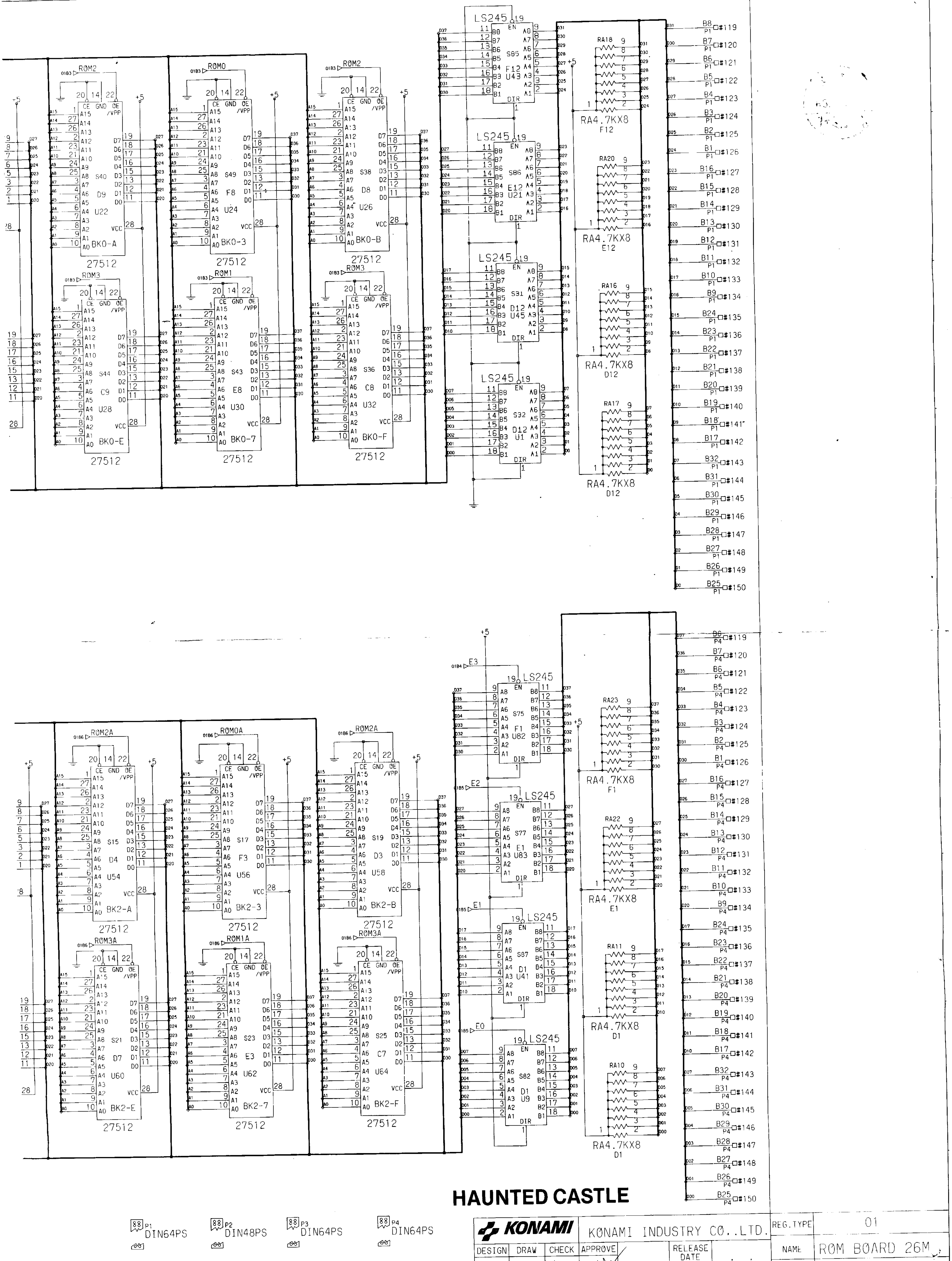
4. CONTINUATION

SW	4	MODE
•	OFF	YES (Up to 3 times)
	ON	NO

• Shows recommended settings

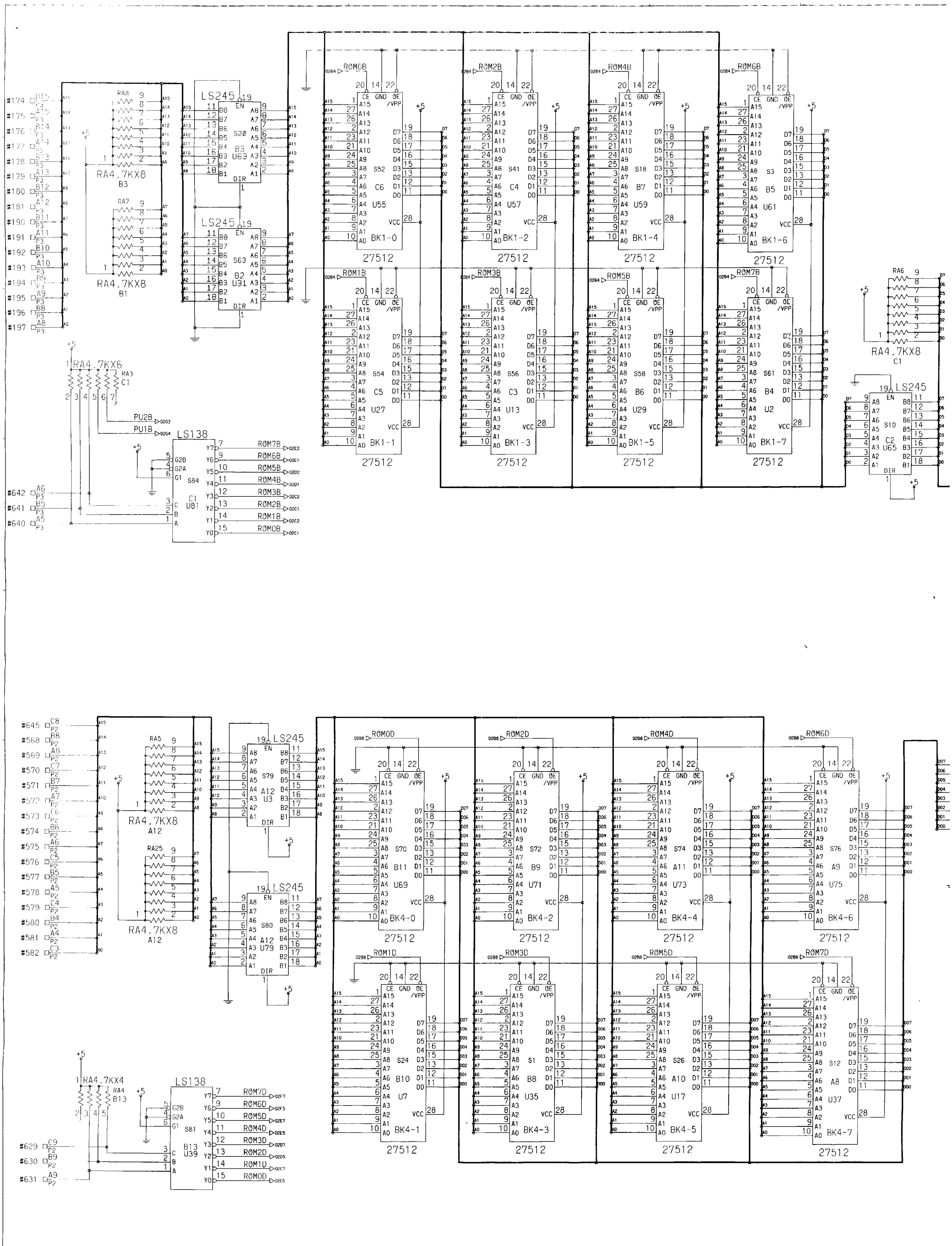


LS245
LS245
LS139
LS139
LS139
LS245
LS245
RA4.7KX8
RA4.7KX4
ROM0
ROM1
ROM2
ROM3
ROM0A
ROM1A
ROM2A
ROM3A
E0
E1
E2
E3
JP
BK0-0
BK0-8
BK0-1
BK0-9
BK0-2
BK0-4
BK0-C
BK0-5
BK0-D
BK0-6
BK2-0
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BK2-5
BK2-D
BK2-6
27512

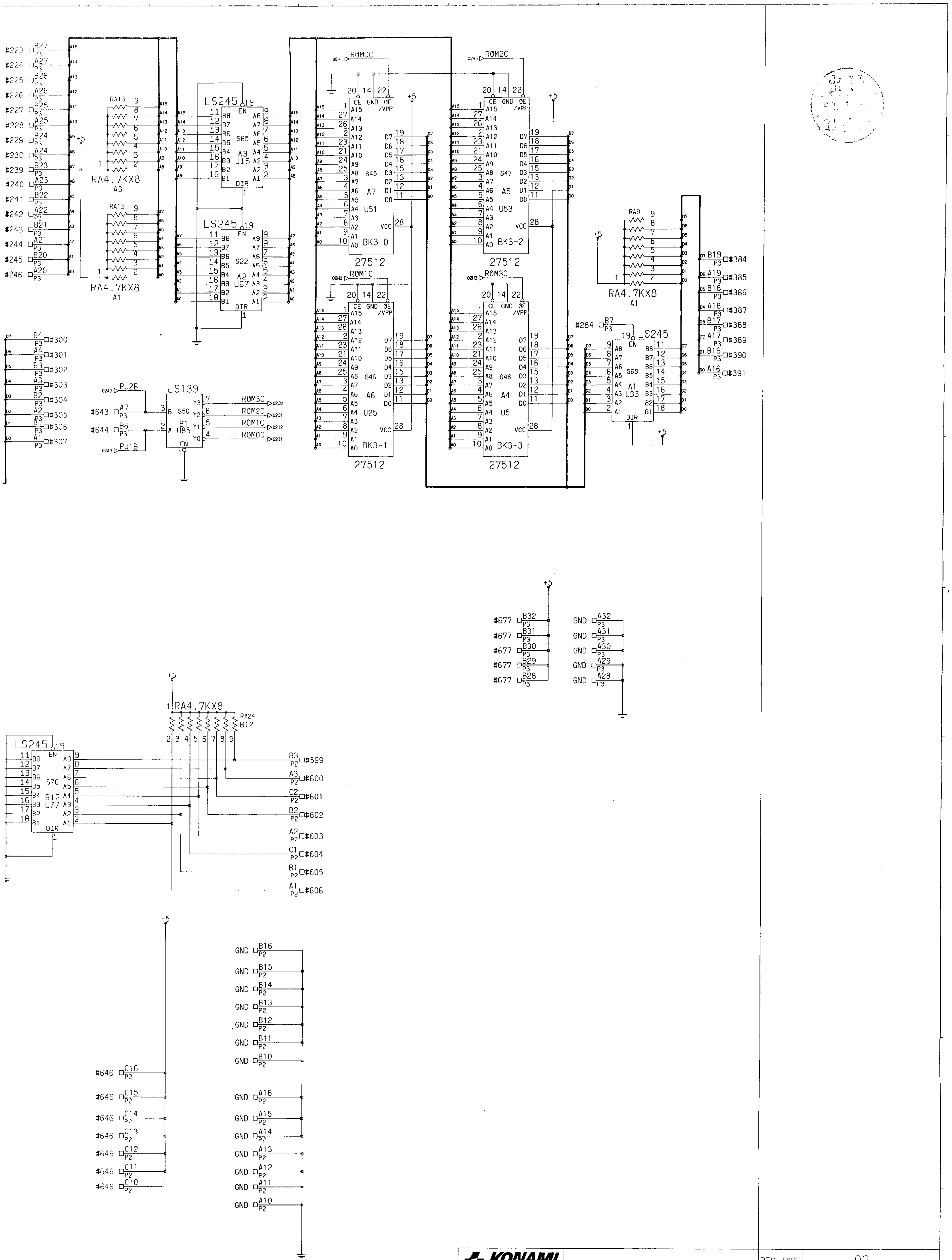


HAUNTED CASTLE

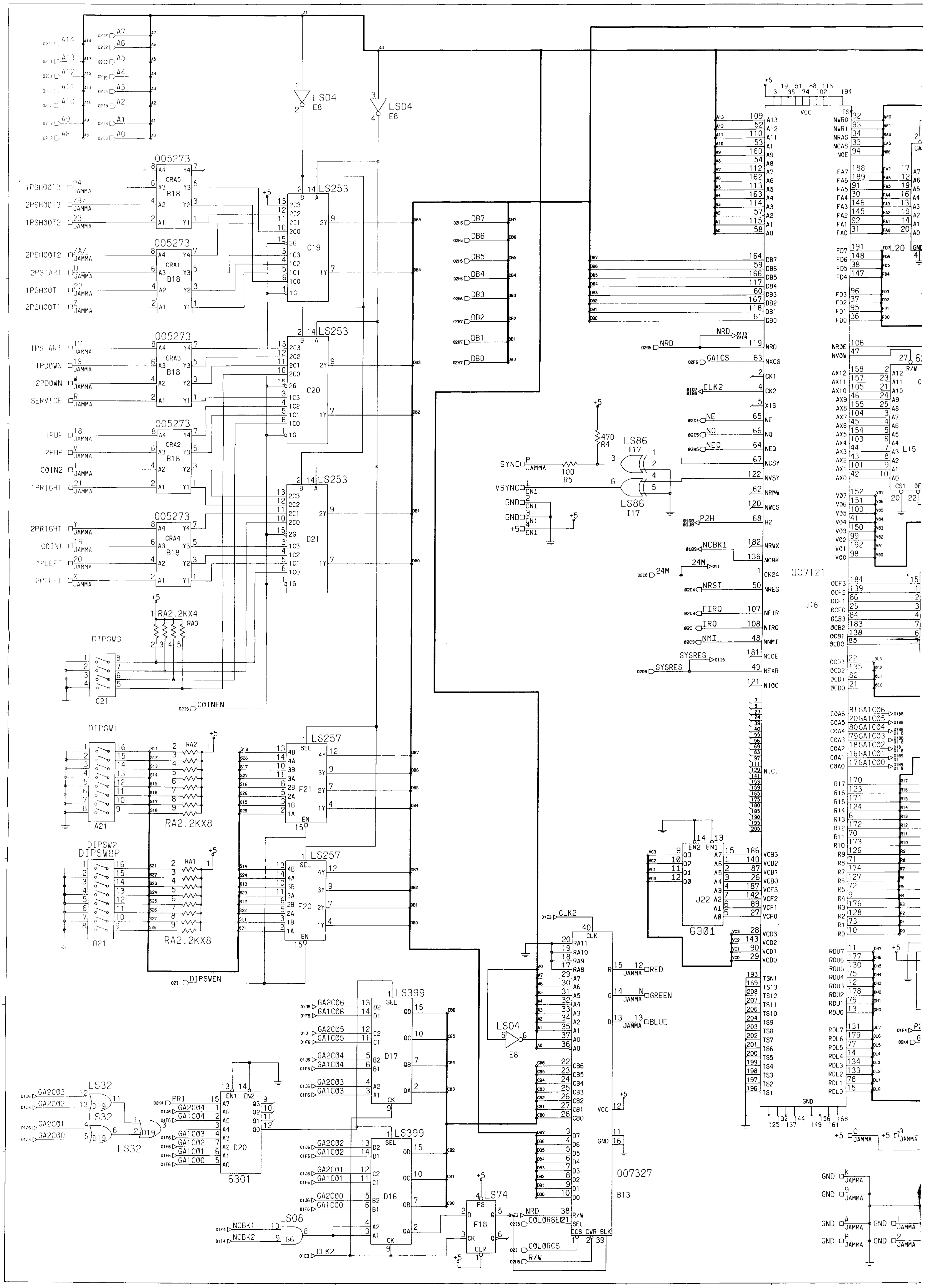
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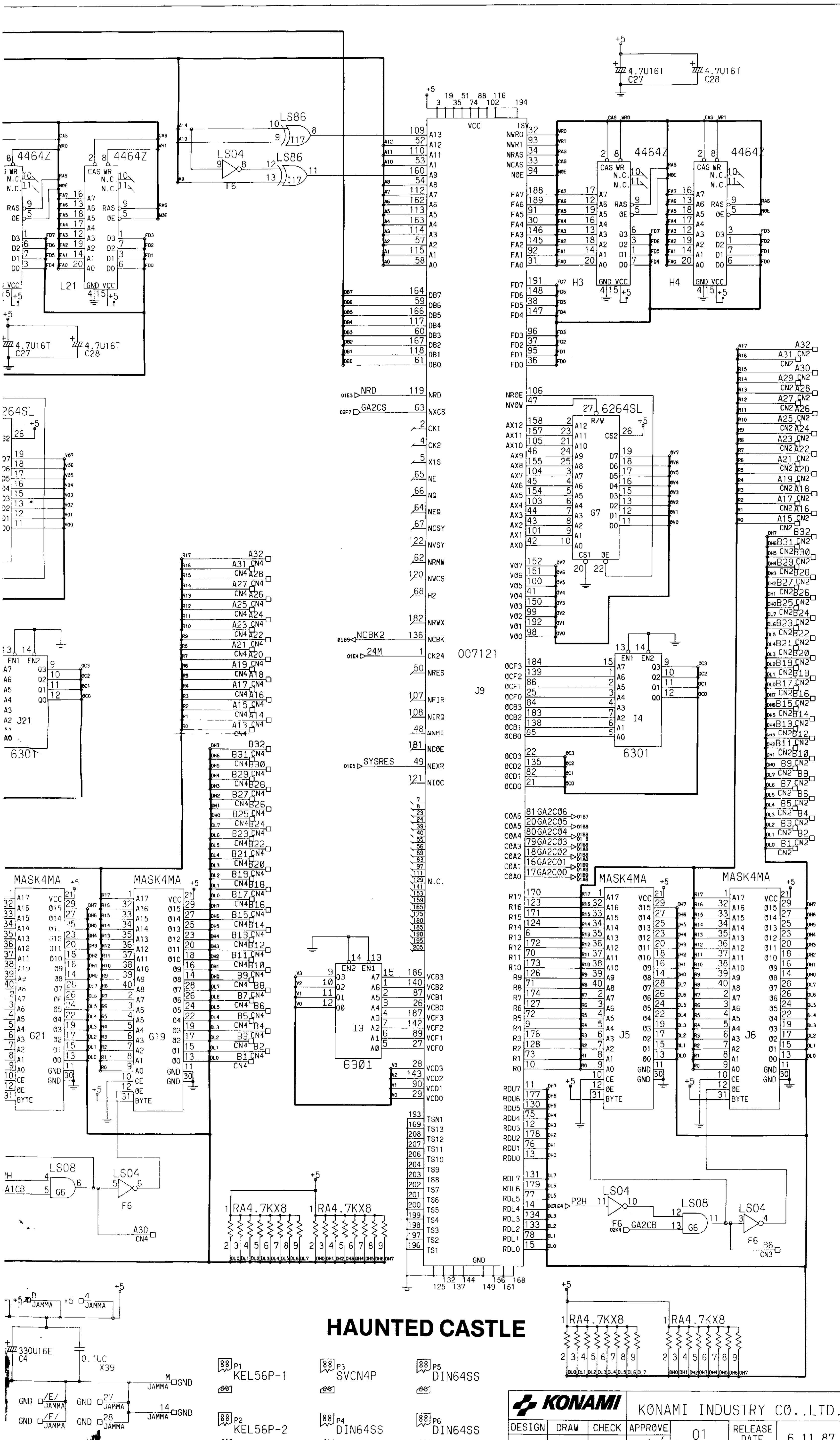
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RA4.7KX6 RA3 C1
PU2B
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LS138
S84 C1 U81
ROM0B
ROM1B
ROM2B
ROM3B
ROM4B
ROM5B
ROM6B
ROM7B
S52 C6 U55 BK1-0
S54 C5 U27 BK1-1
S41 C4 U57 BK1-2
S56 C3 U13 BK1-3
S18 B7 U59 BK1-4
S58 B6 U29 BK1-5
S3 B5 U61 BK1-6
S61 B4 U2 BK1-7
27512
RA6
RA4.7KX8 C1
S10 C2 U65
RA4.7KX8 A12
S79 A12 U3
S80 A12 U79
RA4.7KX4 RA4 B13
S81 B13 U39
ROM0D
ROM1D
ROM2D
ROM3D
ROM4D
ROM5D
ROM6D
ROM7D
S70 B11 U69 BK4-0
S24 B10 U7 BK4-1
S72 B9 U71 BK4-2
S1 B8 U35 BK4-3
S74 A11 U73 BK4-4
S26 A10 U17 BK4-5
S76 A9 U75 BK4-6
S12 A8 U37 BK4-7



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DESIGN	DRAW	CHECK	APPROVE		RELEASE DATE	NAME	ROM BOARD 26M
K.BAN				SCALE	TOLE-RANCE	CODE NO.	PWB350782 2/2



LS04
E8
LS253
C19
C20
D21
005273
B18
1PSH00T3
2PSH00T3
1PSH00T2
2PSH00T2
2PSTART
1PSH00T1
2PSH00T1
1PSTART
1PD0WN
2PD0WN
SERVICE
1PUP
2PUP
C0IN2
1PRIGHT
2PRIGHT
C0IN1
1PLEFT
2PLEFT
JAMMA
RA2.2KX4
RA3
DIPSW3
C21
C0INEN
DIPSW1
A21
RA2.2KX8
DIPSW2
DIPSW8P
B21
LS257
F21
F20
DIPSWEN
DB7
DB6
DB5
DB4
DB3
DB2
DB1
DB0
NRD
GA1CS
CLK2
SYNC
VSYNC
GND
LS86
I17
470
R4
100
R5
P2H
NCBK1
24M
NRST
FIRQ
IRQ
NMI
SYSRES
007121
J16
L20
L15
6301
J22
N.C.
GND
VCC
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D16
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GA2C00
GA1C00
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D19
PRI
D20
LS08
G6
NCBK2
LS74
F18
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C0L0RCS
R/W
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B13
RED
GREEN
BLUE



HAUNTED CASTLE

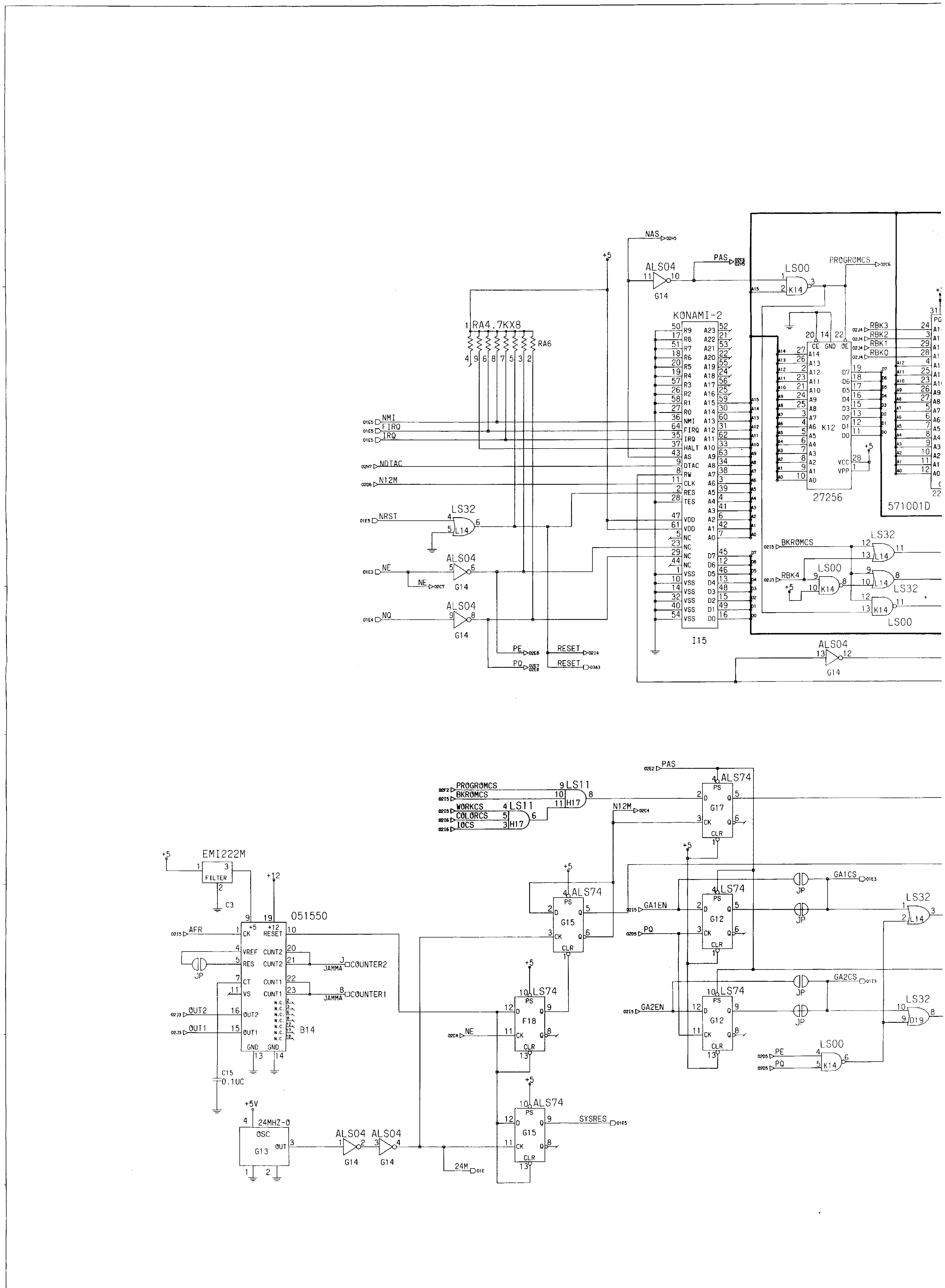
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P2 KEL56P-2
P3 SVCN4P
P4 DIN64SS
P5 DIN64SS
P6 DIN64SS

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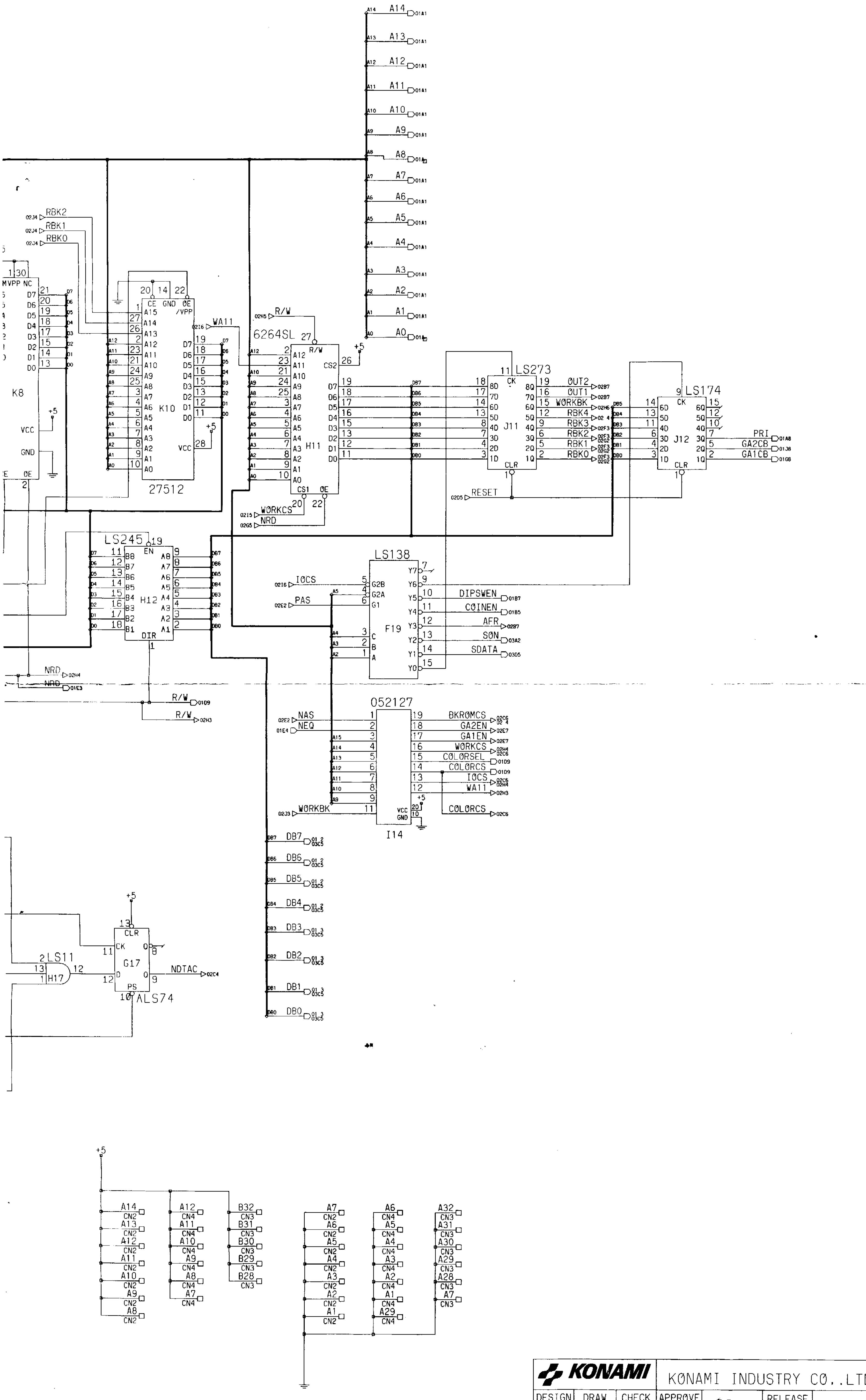
+5 : VCC(+5V)
+12 : VCC(+12V)
⏚ : GND
JAMMA : JAMMA EDGE 56P
PIN NO.
ALPHABET:SOLDER SIDE
NUMBER:PARTS SIDE
/A/:SMALL LETTER
CN1 : 4P SV CONNECTOR
CN2 : 64P DIN CONNECTOR
CN3 : 64P DIN CONNECTOR
CN4 : 64P DIN CONNECTOR

KINDS OF CAPACITOR
T : TANTALUM
M : MYLAR
E : ELECTROLYTIC
C : CERAMIC

KONAMI	KONAMI INDUSTRY CO..LTD.					REG. TYPE	SCHEMATIC DIAGRAM
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K12
571001D
RA4.7KX8
RA6
LS00
LS32
LS11
ALS04
ALS74
K14
L14
G14
G15
G17
G12
F18
H17
D19
NAS
PAS
PROGROMCS
NMI
FIRQ
IRQ
NDTAC
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NRST
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NQ
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PQ
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RBK1
RBK2
RBK3
RBK4
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COLORCS
IOCS
GA1EN
GA2EN
GA1CS
GA2CS
SYSRES
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FILTER
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CUNT2
OUT1
OUT2
JAMMA
COUNTER1
COUNTER2
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JP
+5V
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OSC
G13
+12

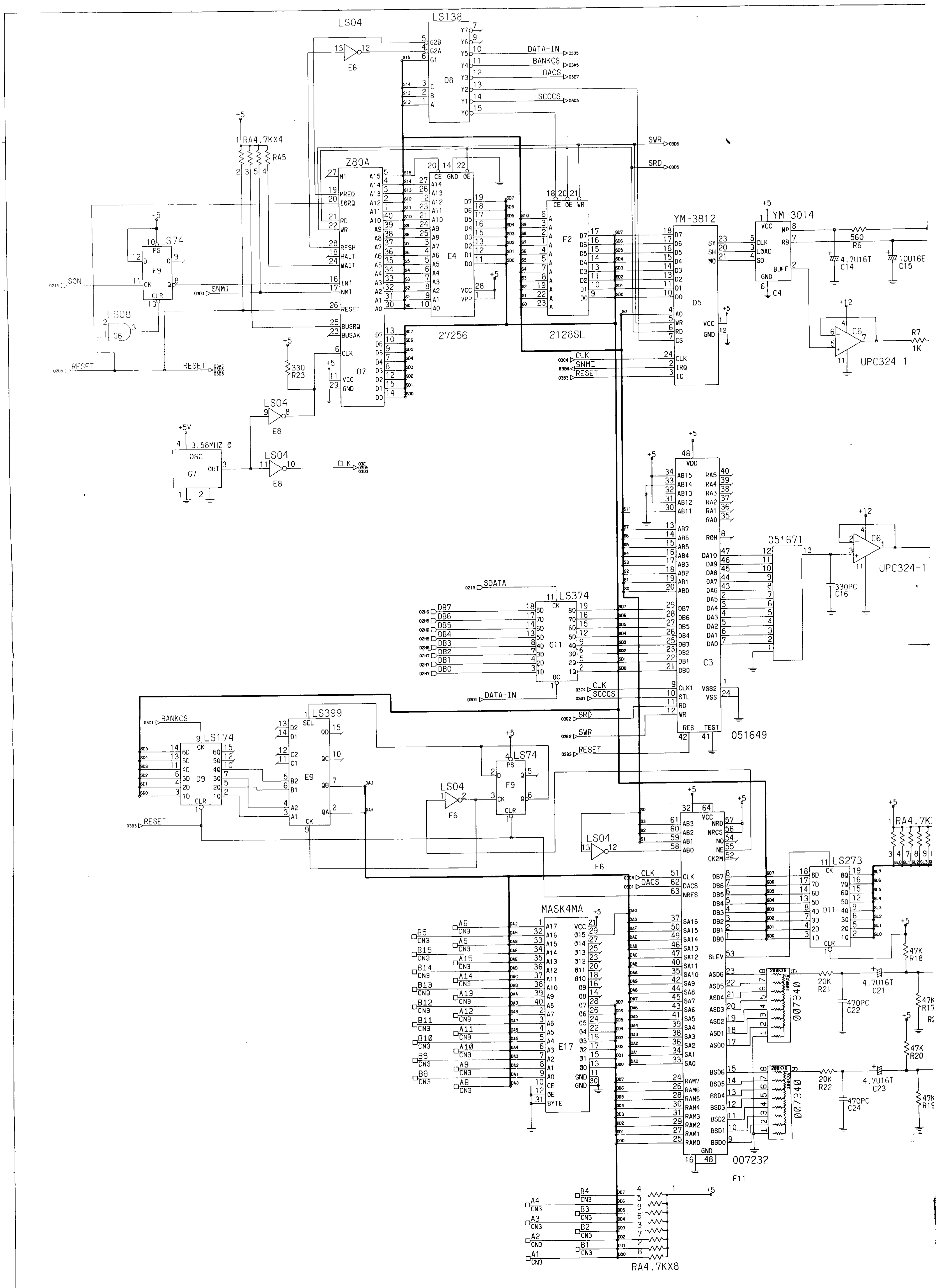


NOTE

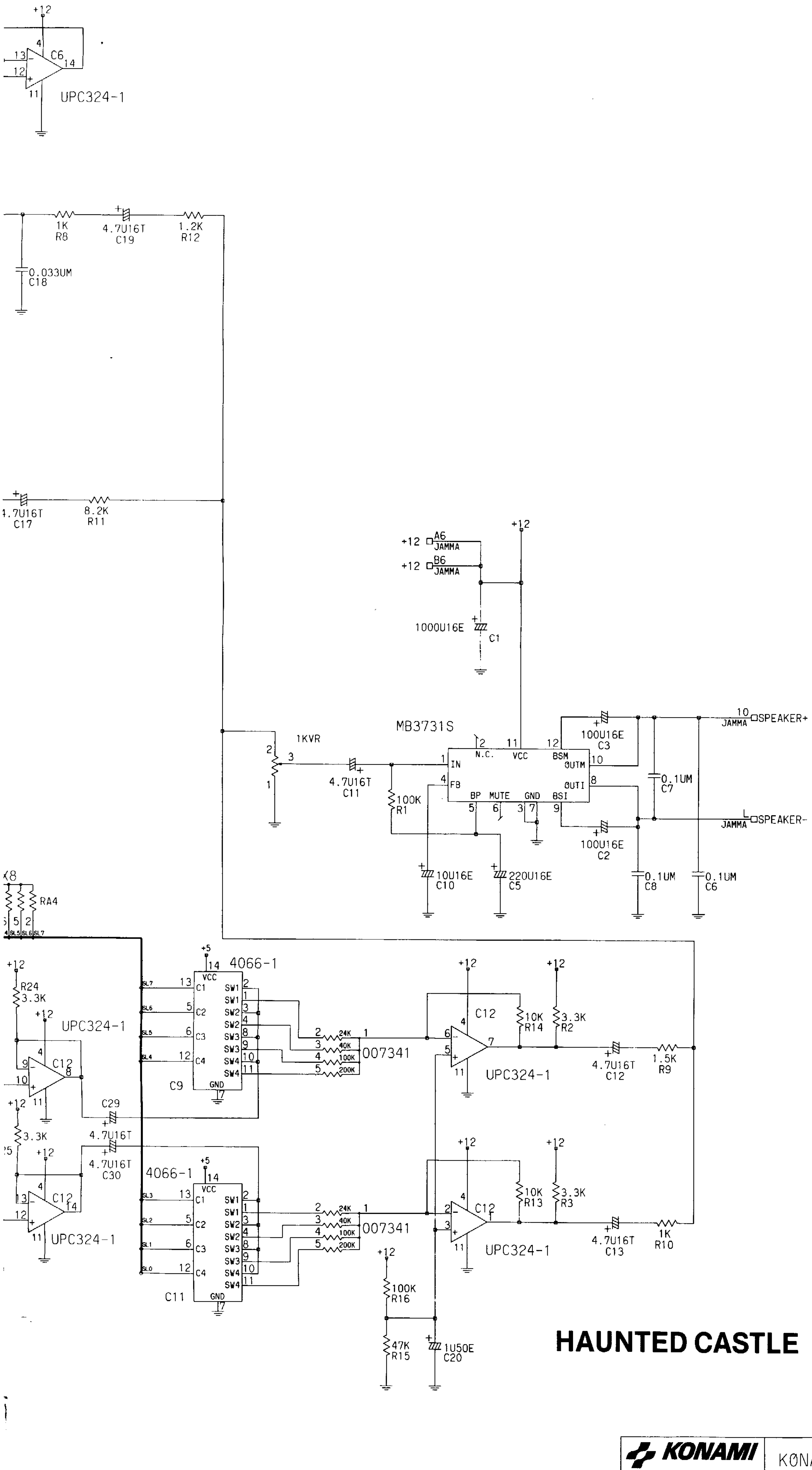
+5 : VCC(+5V)
+12 : VCC(+12V)
⏚ : GND
JAMMA : JAMMA EDGE 56P
PIN NO.
ALPHABET:SOLDER SIDE
NUMBER:PARTS SIDE
/A/:SMALL LETTER
CN1 : 4P SV CONNECTOR
CN2 : 64P DIN CONNECTOR
CN3 : 64P DIN CONNECTOR
CN4 : 64P DIN CONNECTOR

KINDS OF CAPACITOR
T : TANTALUM
M : MYLAR
E : ELECTROLYTIC
C : CERAMIC

KONAMI	KONAMI INDUSTRY CO.,LTD.					REG.TYPE	SCHEMATIC DIAGRAM
DESIGN	DRAW	CHECK	APPROVE	/02	RELEASE DATE 6.11.87	NAME	GX768 PWB350808A
T. MATSUURA	T. MATSUURA			SCALE 1:1	TOLERANCE A1	CODE NO.	100083 2/3



LS04
LS138
D8
DATA-IN
BANKCS
DACS
SCCCS
SWR
SRD
RA4.7KX4
RA5
Z80A
E4
27256
2128SL
F2
YM-3812
D5
YM-3014
C4
UPC324-1
LS74
F9
LS08
G6
D7
3.58MHZ-0
OSC
G7
E8
SON
SNMI
RESET
CLK
SDATA
LS374
G11
051671
051649
C3
LS174
D9
LS399
E9
F6
MASK4MA
E17
LS273
D11
007340
007232
E11
RA4.7KX8



HAUNTED CASTLE

NOTE

- +5 : VCC(+5V)
- +12 : VCC(+12V)
- ⏚ : GND
- JAMMA : JAMMA EDGE 56P
  - PIN NO.
  - ALPHABET:SOLDER SIDE
  - NUMBER:PARTS SIDE
  - /A/:SMALL LETTER
- CN1 : 4P SV CONNECTOR
- CN2 : 64P DIN CONNECTOR
- CN3 : 64P DIN CONNECTOR
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KONAMI	KONAMI INDUSTRY CO.,LTD.					REG.TYPE	SCHEMATIC DIAGRAM
DESIGN	DRAW	CHECK	APPROVE	03	RELEASE DATE	6.11.87	NAME	GX768 PWB350808A
T. MATSUURA	T. MATSUURA			SCALE	1:1	TOLE-RANCE	A1	CODE NO.	100083 3/3

USER INFORMATION

WARNING

F.C.C. REGULATION COMPLIANCE

THIS KIT IS INTENDED FOR USE ONLY ON COIN-OPERATED VIDEO GAMES MANUFACTURED AFTER OCTOBER 1, 1983 WHICH HAVE BEEN VERIFIED FOR COMPLIANCE WITH REQUIREMENTS IN PART 15 OF F.C.C. RULES FOR A CLASS A COMPUTING DEVICE.

IMPROPER CONNECTION OF THIS KIT OR CONNECTION TO ANY OTHER GAME NOT SO MANUFACTURED OR VERIFIED FOR COMPLIANCE MAY CAUSE UNACCEPTABLE INTERFERENCE TO RADIO AND T.V. RECEPTION, REQUIRING THE OPERATOR TO TAKE WHATEVER STEPS ARE NECESSARY TO CORRECT THE INTERFERENCE.

THE P.C. BOARD CAGE SUPPLIED WITH THIS CONVERSION KIT MUST BE UTILIZED AND TERMINATED TO GROUND AT THE TIME OF INSTALLATION.

KONAMI®

815 Mittel Drive, Wood Dale, Illinois 60191
Telephone: (312) 595-1443, Telex: 6871385 KONAM UW, Fax: (312) 595-2973

PART # 768400